

## AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method, comprising:
  - a route lookup procedure for a diverse route, wherein the procedure includes associating a first route with a first channel of two or more channels in a first dense wavelength division multiplex (DWDM) link;
  - associating a second route with a second channel of the two or more channels in the first dense wavelength division multiplex (DWDM) link;
  - associating a third route with a third channel of two or more channels in a second dense wavelength division multiplex (DWDM) link, the first route, the second route and the third route providing similar connections, the first DWDM link being different from the second DWDM link, the first DWDM link is associated with a first physical link identifier and the second DWDM link is associated with a second physical link identifier; and
  - selecting the third route instead of the second route as a diverse alternate route to re-establish a connection that used the first route, by comparing the first physical link identifier with the second physical link identifier.

Claims 2 and 3 (canceled).

4. (Original) A method of preselecting a diverse alternate route when using dense wavelength division multiplex (DWDM), comprising:
  - assigning a first physical link identifier to a first route, the first route using a channel in a first DWDM fiber link;
  - assigning a second physical link identifier to a second route, the second route using a channel in a second DWDM fiber link, wherein the second route and the first route have no common route segment; and
  - comparing the first physical link identifier with the second physical link identifier to select a diverse alternate route for the first route, wherein when the first physical link identifier is different from the second physical link identifier, the second route is selected as the diverse alternate route.

5. (Original) The method of claim 4, wherein the first route and the diverse alternate route provide connections to similar nodes.
6. (Original) The method of claim 4, wherein the first physical link identifier and the second physical link identifier are implemented with a routing protocol.
7. (Original) The method of claim 6, wherein the routing protocol is private network-to-network interface (PNNI) protocol.
8. (Original) The method of claim 7, wherein the first physical link identifier is implemented in a system capabilities information group.
9. (Original) The method of claim 7, wherein the first physical link identifier is implemented in a horizontal link information group.
10. (Original) A computer readable medium having stored thereon sequences of instructions which are executable by a digital processing system, and which, when executed by the digital processing system, cause the system to perform a method for preselecting a diverse alternate route when using dense wavelength division multiplex (DWDM), comprising:
  - assigning a first physical link identifier to a first route, the first route using a channel in a first DWDM fiber link;
  - assigning a second physical link identifier to a second route, the second route using a channel in a second DWDM fiber link, wherein the second route and the first route have no common route segment; and
  - comparing the first physical link identifier with the second physical link identifier to select a diverse alternate route for the first route, wherein when the first physical link identifier is different from the second physical link identifier, the second route is selected as the diverse alternate route.
11. (Original) The computer readable medium of claim 10, wherein the first route and the diverse alternate route provide connections to similar nodes.

12. (Original) The computer readable medium of claim 10, wherein the first physical link identifier and the second physical link identifier are implemented with a routing protocol.

13. (Original) The computer readable medium of claim 12, wherein the routing protocol is private network-to-network interface (PNNI) protocol.

14. (Original) The computer readable medium of claim 13, wherein the first physical link identifier is implemented in a system capabilities information group.

15. (Original) The computer readable medium of claim 13, wherein the first physical link identifier is implemented in a horizontal link information group.

16. (Previously Amended) A method, comprising:

associating a first route with a first channel of two or more channels in a first physical link;

associating a second route with a second channel of two or more channels in the second physical link, the first route and the second route providing connections to similar nodes; and

selecting the second route as a diverse alternate route for the first route to re-establish a connection upon failure of the first route, by comparing the first physical link with the second physical link and selecting the second route when the first physical link is different from the second physical link.

17. Canceled.

18. (Currently Amended) The method of claim ~~17~~16, wherein comparing the first physical link with the second physical link comprises associating the first physical link with a first physical link identifier and associating the second physical link with a second physical link identifier.

19. (Original) The method of claim 16, wherein the second route is selected as the diverse alternate route for the first route before the first route fails.

20. (Currently Amended) A computer system, comprising:  
a bus;  
a data storage device coupled to the bus; and  
a processor coupled to the data storage device, the processor operable to receive instructions which, when executed by the processor, cause the processor to perform a method comprising:  
associating a first route with a first channel of two or more channels in a first physical link;  
associating a second route with a second channel of two or more channels in ~~the~~ a second physical link, the first route and the second route providing connections to similar nodes; and  
selecting the second route as a diverse alternate route to re-establish a connection that used the first route, by comparing the first physical link with the second physical link and selecting the second route when the first physical link is different from the second physical link.
21. Canceled.
22. (Currently Amended) The system of claim ~~21~~20, wherein comparing the first physical link with the second physical link comprises associating the first physical link with a first physical link identifier and associating the second physical link with a second physical link identifier.
23. (Original) The system of claim 20, wherein the second route is selected as the diverse alternate route for the first route before the first route fails.
24. (Previously Amended) A computer system, comprising:  
means for associating a first route with a first channel of two or more channels in a first physical link;  
means for associating a second route with a second channel of two or more channels in the second physical link, the first route and the second route providing connections to similar nodes; and

means for selecting the second route as a diverse alternate route to re-establish a connection upon failure of the first route, including means for comparing the first physical link with the second physical link and means for selecting the second route when the first physical link is different from the second physical link.

25. Canceled.

26. (Currently Amended) The system of claim ~~25~~24, wherein means for comparing the first physical link with the second physical link comprises means for associating the first physical link with a first physical link identifier and means for associating the second physical link with a second physical link identifier.

27. (Original) The system of claim 24, wherein the second route is selected as the diverse alternate route for the first route before the first route fails.